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LANGUAGE IN HUMAN PATIENTS AFTER BRAIN BISECTION. M. S. Gazzaniga* and R. W. Sperry. Calif. Inst. of Tech., Pasadena.

Testing of 2 patients with section of callosum, anterior and hippocampal commissures, and massa intermedia showed that right and left hemispheres work separately in perceptual, cognitive, learning and mnemonic activities. Verbal description of test material was possible for left hemisphere only; oral or written responses to stimuli in left hand or left half visual field suggested complete agnosia. However, good comprehension by the right hemisphere of similar test material was clearly evident when tests were designed that did not require direct verbal expression. For example, when words were shown in left visual field that were unreportable by speech, the corresponding object or picture could be selected from among a series. Likewise word cards were correctly retrieved for pictures of objects or scenes flashed to the left visual field or for objects held out of sight in the left hand. Correct numeral symbols were also retrieved after random presentation of 1 to 4 dots to left field where they were not reportable by speech. Further, with eyes blindfolded, spoken instructions could be followed for retrieving correct objects by palpation with left hand. The total evidence favors the view that even where speech and writing are strictly lateralized the engrams for language comprehension may be bilateral. (Supported by USPHS MH 3372.)